Kidney International (2006) **70**, 1888. doi:10.1038/sj.ki.5001736

Deferoxamine-related fatal nasal–orbital–cerebral mucormycosis

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Figure 1 | Photograph of the patient, showing swelling and erythematous skin lesions on the left forehead and periorbital areas and two nodules measuring 3 × 1 cm and 2 × 1 cm on the nasal ridge, with local tenderness and fragile bony structure on palpation.

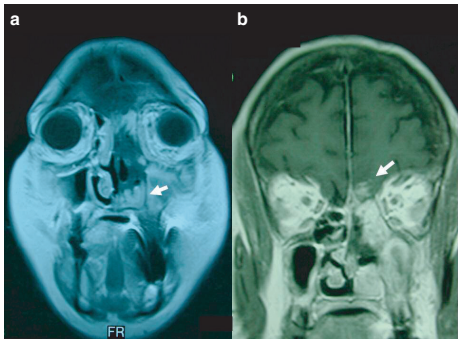

Figure 2 | Gadolinium-enhanced T1-weighted magnetic resonance brain imaging. (**a**) Mucormycosis with invasion into the paranasal sinus; the mucosa of the left maxillary sinus was thickening, and bone destruction of the nasal bone, hard palate, and paranasal sinuses was observed (arrow). (**b**) Extension of mucous debris to the nasal cartilage, nasal floor, and hard palate (arrow).

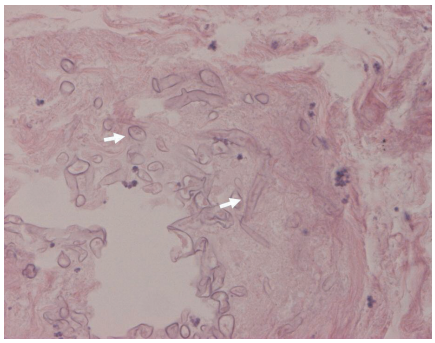

Figure 3 | Mucormycosis was identified from the pus culture (arrows). (Hematoxylin and eosin stain; original magnification, ×200.)

A 51-year-old woman with diabetes and end-stage renal failure, on dialysis, was treated with deferoxamine for iron overload resulting from repeated blood transfusion. Two weeks after starting treatment, she presented with progressive swelling of the left orbital with exophthalmos, nodules on her nose, and low-grade fever.

On examination, she had coalescent nodules with yellowish, mucus-like discharge and local tenderness on palpation (Figure 1). Magnetic resonance imaging disclosed a mass invading the paranasal sinus, and penetrating the nasal floor and hard palate (Figure 2). Mucormycosis was identified from the pus culture (Figure 3). Despite aggressive treatment with surgical débridement and intravenous amphotericin B, she died from septic shock and respiratory failure.

Mucormycosis usually presents with rhino-orbito-cerebral, pulmonary, disseminated, cutaneous, or gastrointestinal involvement. Immunocompromised states such as diabetes mellitus, end-stage renal disease, and deferoxamine therapy predispose patients to infection. Deferoxamine-related mucormycosis has a very high mortality (reported to be around 89%) in dialysis patients.

ACKNOWLEDGMENTS

This study was financially supported by the Ta-Tung Kidney Foundation.